



# State of New Jersey

## DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE REMEDIATION AND WASTE MANAGEMENT PROGRAM

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July 28, 2021

Sam Abdellatif  
Land and Redevelopment Programs Branch  
U.S. Environmental Protection Agency, Region 2  
290 Broadway, 25th. Floor  
New York, NY 10007-1866

RE: Amerada Hess Corp- Former Port Reading Refinery  
EPA ID No. NJD045445483  
750 Cliff Road  
Woodbridge Twp, Middlesex County  
PI#: 006148

### **Comment Letter: Revised Proposed Future Solar Field Project Area Remedial Investigation Workplan**

Dear Mr. Abdellatif:

The New Jersey Department of Environmental Protection (Department) has completed a review of the Revised Proposed Future Solar Field Project Area Remedial Investigation Workplan Submitted May 14, 2021, and the Response to Comments submitted June 25, 2021. The documents were submitted pursuant to the Site Remediation Reform Act (N.J.S.A. 58:10C-1 et seq.), the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), and the NJDEP Technical Requirements for Site Remediation at N.J.A.C. 7:26E.

The Department sent draft comments to Hess on March 17, 2021.

The Department has the following comments:

#### Response to Hess Comments:

1. **Response 5, Response 6, Response 8 and subsequent bullets, Response 10:** The response language used regarding ecological work is not consistent with prior approved language from the agencies. A suggested response is: "Future ecological evaluations will be conducted pursuant to the ecological language contained in the workplan, EPA's letter

dated June 23, 2021, and the Departments letter dated June 4, 2021.” Please confirm that Hess plans on adhering to the ecological language previously discussed.

2. **Response 6, bullet 6:** Tidal stage recording during sampling was identified; The Department requested clarification of the tidal stage measurement location (e.g., stilling well on the Arthur Kill? North Ditch?), and that a tidal influence evaluation of the area would be needed. Does the QAPP include either or both of these elements?
3. **Response 7:** The Colonial pipeline location will need to be confirmed during the RI and shown on RIR figures with well locations. Pipeline construction information (e.g., invert depth and pipe diameter) will need to be provided in the RIR and considered with well completion intervals, water quality data, and tidal influence study.
4. **Response 12, bullet 6:** The Department does not find that the tanker area will be fully investigated by the proposed sampling plan based on flow conditions and proposed well locations. If not included in this RIW as part of AOC 103 or as a new AOC, additional investigation will be needed under the site RI.
5. **Response 16:** Boring and borehole pre-clearing continues to be an issue for the evaluation of site impacts, particularly for VOCs. The least disruptive methods and depths are requested, but will always qualify, to some degree, VOC sample results and evaluation of compliance with the Remediation Standards.
6. **Sampling Depths Proposals for Investigation Borings, Various AOCs, Section 6.1, Response to Comment 23:** The proposed sample depths for the Investigation Borings in various AOCs are still unclear. Are the depths listed in the tables for Investigation Borings the total depth of the boring or the proposed sampling interval? Will multiple samples be collected per boring? Will the actual sample interval(s) be selected based on field indicators? How many samples for analyses will be collected from each Investigation Boring?
  - a. **AOC 102, page 27:** Although some of the above questions seem to be answered, based on the following language: “Soil samples will be collected from the surface (0 to 2-feet below grade) and from intervals that exhibit any field indications of potential impacts.”, please clarify and respond to the above questions.
  - b. **AOC 91:** There is no rationale for sample depth selection other than “Soil samples will be collected based on field observations”. Please provide a rationale for the sampling depth selections.

Additional General Comments:

7. The Department previously commented on various documents including the PA/ SI from 2015. Hess response often included that those comments will be addressed in future workplans. The Departments review of this document and future documents is and will be conducted under the premise that prior comments will be applied to future submittals where applicable. Hess should ensure prior comments, where applicable, are applied appropriately to each workplan.

8. If using a site feature as a location identifier on a figure, please label the feature so that the Department can find the specific location and be properly oriented. (i.e. North Ditch should be labeled if using as a location identifier).
9. Clarify if all soil boring and well locations will be pre-cleared. The Department notes that this may interfere with the assessment of near surface VOC field screening and soil/temporary well sample results.
10. The workplan does not provide a full description of historic and Hess ownership property uses (AOC 17, AOC 63 and AOC 102). Records of material transfers to these areas from on-site or off-site, types and sources of materials being stored in AOC 63 and 102, etc., were not described. Refineries generate various waste streams that may have been deposited in either of these filled areas and prior to changes in regulations concerning these materials (e.g., catalyst fines, catalyst beads, possibly dimersol materials, etc.). If this cannot be affirmatively determined, the assumption may need to be that Hess did use these areas for refining waste materials management if they were not precluded during all of Hess ownership.
11. The RIW provides the AOC 63 and AOC 102 SIR sampling data. The plan acknowledges 1986 aerial photo features in AOC 102 and has included additional sample locations in some of the apparent materials storage areas. However, no sampling has been proposed in the following areas: a portion of the solar field area between the pipeline easement and the North Ditch, across significant portions of AOC 102 south of AOC 63, with upland drainage paths to wetland and wetland buffer areas, the western portion of AOC 63 appears to have some types of storage uses, and all AOC 102 materials storage areas have not been included in the sampling plan. Adequate justification must be provided for why these areas are not being sampled or they should be included in the sampling plan.
12. The Department understands that the solar field project has been terminated. However, if solar panel footings are going to be installed through the shallow water table to a deeper unit, ground water characterization and drilling provisions need to be identified to preclude creating a preferential pathway for any contaminant migration between water bearing units.
13. The Department notes that the following comments should be applied to future ecological investigations and does not need to be addressed in this document. For future ecological investigation actions, no soil or sediment sampling has been proposed within any of the wetland or wetland buffer areas. Only sampling of surface water/sediment in the Arthur Kill has been identified and no locations are included in the AOC 104 North Ditch.
  - a. Soil sampling in the transition and wetland area should be included in the plan to help characterize upland contaminant migration.
  - b. None of the SI soil samples in AOC 63 and 102 included surface soil sample intervals. This is a concern with respect to surface erosion to ecological receptors and direct contact/inhalation pathways.

- c. It is not confirmed if ground water migration is or is not a pathway for contaminant migration to wetlands or surface water.

Additional Specific Comments:

14. **Page 17, Historic Fill, BNs and Metals:** The language used regarding historic fill is not consistent with prior discussed and approved language from the agencies. Hess stated “Various BN and metals were detected in multiple soil samples. These compounds are most likely attributable to the presence of historic fill. Regardless of the source of these impacts, the final remedial strategy to address these impacts will include the use of institutional and engineering controls. Therefore, additional soil investigation is recommended to collect sufficient analytical data to support the final remedial strategy.”.

Although Hess stated that historic fill is “most likely attributable to the presence of historic fill”, Hess must demonstrate the presence of historic fill through a historic fill evaluation pursuant to NJAC 7:26E.

The Department suggests including the following language in the workplan: “A historic fill evaluation will be submitted to the agencies pursuant to NJAC 7:26E to confirm the presence of historic fill.”

15. **AOC 63 and AOC 102:** These AOCs are north of the North Ditch; No ground water sampling was conducted in these AOCs in the SIR or proposed in the revised RIW. A ground water investigation may be needed based on the boring observations and/or sample results. Hess is reminded that the May 2021 amendments to the Remediation Standards includes standards to evaluate the Migration to Ground Water pathway.
16. **AOC 85 Marine VRU:** The MRVU wells need to reflect the MRVU-SS-6 location that had the highest PID readings of many borings. Show the SIR location of this boring with the proposed monitor wells. Based on the scale of the drawing, the well locations are some distance from the boring. The investigation needs to quantify the magnitude of a source at the source.
17. **AOC 91 North Dock Yard:** The 1972 aerial photo included an area that may have been a fire pit area. No soil borings or monitor wells are proposed within the limits of this feature. All borings are at perimeter locations, with one central location. The location of FA-13 does not adequately investigate PFAS contamination within this area. Future construction may make this area inaccessible, and a monitor well may be required within the aerial photo feature for PFAS sampling.
18. **AOC 100 Storage Area and AOC 103 Fire Pit/Training Area:** Figure 9b provides proposed soil borings for LNAPL delineation at FA-3 and FA-5. Figure 9c provides proposed soil borings for PFAS delineation around monitor wells FA-1, FA-4, FA-6 and FA-7. Figure 10 provides monitor well locations for the PFAS area (FA-8 through FA-20).

The Department is specifically concerned with the movement of a monitor well that had been included in the 1963 aerial photo fire pit location, and the absence of investigation in

the area outside of FA-7. The Department notes that Hess must review and apply the comments provided in the August 2020 PowerPoint submittal, comment letter dated November 20, 2020, and conditional approval letter dated March 24, 2021.

- a. The new soil borings and monitor well locations need to be shown with the proposed monitor well locations/numbers in the August 2020 submittal that the department reviewed and commented on in November 2020.
  - b. Borings and wells need to be shown on each aerial photo as was previously provided.
  - c. A monitor well is required at the 1963 fire pit feature. It looks like former FA-15 at this location was moved.
  - d. Explain why PFAS soil boring sampling is not included at FA-2, FA-3 and FA-5.
  - e. Investigation in the area near FA-7 is required. No samples appear to be in this area as indicated would be the case in the March 2021 response to the departments November 2020 comments on the August 2020 fire training area submittal.
  - f. Since Hess stated fire training materials were stored in the fire training area, and the 1969 and 1970 aerial photos shows apparent tankers in the fire pit training area, this area needs to be included in the investigation. Again, all soil boring and well locations need to be shown on all aerial photos since features changed over time.
  - g. The RIW sample location figures must include the Colonial Pipeline location. The pipeline location appears to have been confirmed by Buckeye and differs from previous Hess submittals. It is not included on sample location figures.
  - h. No other screening soil borings/sample locations are shown in the area between AOC 100 and AOC 103 for characterization - screening purposes. Adequate justification must be provided for not proposing samples in this area or the area should be sampled.
19. **AOC 85, AOC 91, AOC 100, AOC 103:** These AOCs are south of the North Ditch, are contiguous to overlapping, and are within or proximal to the solar field footprint.
- a. **AOC 103 Limits:** Based on aerial photo reviews and the results to date from FA-1 through FA-7, AOC 103 limits should be larger than identified in the 2015 SIR. The AOC limits should include all of the apparent fire training pit areas/drainage pathways. It should also include the area between the No. 1 Landfarm and FA-1/AOC 100 limits that had what may be tanker trucks related to fire training and/or fire response materials storage. Draft Comment Response 4 states that the RIW is focused on specific AOCs. The tanker area is not considered part of one of the solar field AOCs but is partly within the solar field footprint. This area needs to be part of AOC 103 or another AOC needs to be created.

- b. **RIW Well Construction Summary Table:** Although the well manual is referenced, the RIR must include a well construction summary table for the subset of the existing wells that will be included in the remedial investigation, and the construction of new wells installed during the investigation, for ease of reference. As previously discussed, all references to prior documents should be included as appendices for ease of reference and review.
  - c. The Department provided comments on the revised well manual and well construction summary table on April 22, 2021. The Department concurred with the well construction information provided for SP-2, SP-3, BG-3, FA-1 through FA-7. There was a minor comment provided on PER-8. Ensure this comment was addressed in this document.
  - d. **2020 Ground Water Data Discussion – Petroleum Impacts:** RIW Section 5 discussed ground water data. Benzene (FA-3, FA-5), benzo(a)anthracene (FA-3), Total VOC and SVOC TICs (FA-3, FA-5), and limited inorganics exceed Class IIA GWQS. FA-3 and FA-5 are the most impacted (benzene, Total TICs and LNAPL). The section concludes that investigation is needed because of benzene. The RIW includes borings around FA-3 and FA-5 to further evaluate LNAPL and soil EPH impacts, and additional borings in AOC 100 and AOC 91. Additional monitor wells will also be installed. The RIR need to evaluate all COC impacts to ground water. Benzene is not the only petroleum related COC at AOC 100/103.
20. **AOC 85, AOC 91, AOC 100/103:** Figure 9 soil boring and monitor well information was provided on multiple aerials as requested. FA-14 is located in the 1963 aerial photo feature, and FA-13 is located within the area in the 1972 aerial photo. FA-15 is located at a feature in the 1979 photo. The wells to be sampled are FA-8 through FA-21 for VOC, SVOC, Metals, Ammonia, PFAS. Included will also be SP-2, SP-3 and BG-3 for PFAS compound sampling.
- a. Soil borings locations should be included around FA-3 (EPH, contingent analysis) on Figure 9-aerial photo figures.
  - b. Existing wells FA-1 through FA-7 were sampled for PFAS compounds in January 2020. They have not been sampled again to confirm PFAS results or evaluate changes and are not included in the sampling plan. The Department recommends including FA-1 through FA-7 in the PFAS sampling plan.
  - c. Confirm if the temporary well is still proposed at AOC-115 or if this has been omitted from the RIW.

**Figure 9 – 1969 photo (attachment 1):**

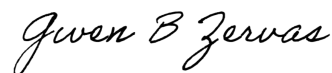
- d. The potential fire training tanker area (circled in black) is not included in the RIW. FA-16 is located in part of this area. This area appears to be considered outside of the AOCs included in the RIW. If the potential fire training/material storage tanker area is not part of AOC 103 and this RIW, it will need to be part of another investigation.

- e. The locations of FA-8 and FA-20 (circled in black) appear to be outside of the apparent drainage path starting near FA-4 (highlighted in photo). This will have to be considered with the results if the locations are not adjusted.
  - f. The Colonial Pipeline location will have to be confirmed and shown on RIR well location figures, and the RIR will also need to provide pipeline construction information.
21. **AOC 91 North Dock Yard:** Five (5) soil borings are proposed for EPH, TCL/TAL sample analyses. One location will be converted to a temporary well. The location is shown on Figure 9 (1963 – 2006 aerials).
- a. Temporary well boring must be advance by hand augers if possible to minimize disruption of the formation and impacts to VO COCs.
  - b. The temporary well location should be finalized based on soil boring log observations.
22. **Figure 5 Ground Water Contour Map:** The ground water elevation change between FA-2 (7.5' msl) and FA-3 (2.78' msl) is significant. As identified in prior comments, efforts should be made to obtain as detailed boring logs as possible in this transition area to identify changes in the underlying formation with depth.
- a. Flow conditions between FA-1 and SP-2/SP-3 are not clear. Proposed wells FA-15, 16 and 17 should provide further resolution.

Nothing in this correspondence affects Hess' potential liability and obligations to the State Trustee, the Department, or its Commissioner regarding natural resource injuries, restoration, or damages.

If you have any questions regarding this matter, contact Julia Galayda at [Julia.Galayda@dep.nj.gov](mailto:Julia.Galayda@dep.nj.gov).

Sincerely,



Gwen B. Zervas, P.E.  
Section Chief

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